

REMARKS

Applicants have amended claim 7 to address indefiniteness issues and canceled claim 16 due to a restriction requirement. Applicants have also added new claims 17-20 to further describe the invention.

Claim 7-12, and 15 stand rejected under 35 U.S.C. § 112, second paragraph as indefinite. First, the examiner objects to the term comprising as it relates light source to the light emissions. Applicants have amended claim 7 to clarify that the light source emits light in a wavelength comprising near infrared.

Second, the examiner objects to the term "near", indicating that the specification does not provide a standard for this term and one of ordinary skill in the art would not be apprised of the scope of the invention. Applicants humbly disagree. The term "near infrared" as it relates to the wavelength of light emissions is well known in the art and has been used extensively in patents. In fact, the term "near infrared" is found in the claims of over 1500 issued patents from 1976 to the present just doing a simple, basic search for the term from the PTO website. Also, while the specification does not specifically "define" the term, it does discuss the wavelengths associated with practicing the present invention in detail. For instance, the specification indicates that the dyes used in the present invention must fluoresce between 700 nm and 1300 nm. This directly relates to the term "near infrared" as it is used extensively in the literature of the art and patents. Therefore, applicants believe that the examiner is in error in asserting that the use of this term makes the claims indefinite.

Third, the examiner states that claim 7 is incomplete for omitting essential structural cooperative relationships of elements. Again, applicants disagree with this

assertion. Initially, in the previous Office Action related to this application, the examiner raised no such objection or rejection. In response to the original Office Action, applicants added specificity and structural elements to claim 7. Applicants do not understand how adding elements, which further define the invention, can result in a rejection of the present nature. Regardless, applicants believe that all of the essential elements are set forth in amended claim 7. This claim sets forth a light source operating at certain wavelengths, a sample holder made up of an uptake channel (to introduce the sample into the analysis target area) and an analysis target area (where the actual analysis takes place), an optical system and a detector (to actually detect the molecule). The above amendments also include a molecule that has been tagged with a reagent tag (which is excited by the light source wherein the detector can detect the reagent tag). This level of structural cooperation between the elements is more than sufficient for one skilled in the art to practice the invention.

Claims 7, 9-12, and 15 stand rejected under 35 U.S.C. § 102(e) as anticipated by Giebeler et al. (U.S. 6,236,456). Specifically, the examiner specifies that Giebeler et al. discloses all of the elements of the claims. This includes indicating that Giebeler et al. discloses both the embodiment wherein the analysis target area is an enclosed, solid barrier and the embodiment of the present invention wherein the analysis target area is free of a solid phase.

First, the examiner suggests that the previous response did not address the Giebeler et al. reference, and, therefore, applicants agreed that said reference disclosed all of the limitations of the claims. This is incorrect. Applicants indicated all of the referenced rejections, including Giebeler et al., within the body of the remarks. While

one specific argument related only to the other references, the majority of the argument related to all of the references.

Specifically, applicants added several limitations within the claims that are not disclosed by any of the references. For example, none of the references, including Giebeler et al., disclose an analysis target area that has an activated matrix therein. The examiner never addresses this limitation in the present Office Action. Also, the examiner indicates that Giebeler et al. discloses both of the embodiments of the present invention set forth in claims 11 and 12 of the present application. The examiner suggests that this reference discloses these embodiments in the same apparatus. This is physically impossible. One cannot have an area that is both a solid phase and solid phase free as the examiner suggests. In fact, the examiner points to two different areas within the Giebeler et al. apparatus and attempts to argue that both of them are the analysis target area. This is clearly incorrect.

Further, the examiner states that when the "analysis target area enters the reading chamber via the housing door..." In the present invention and claims, the sample holder is made up of an uptake channel and an analysis target area. Samples enter, through the uptake channel, and enter the analysis target area. In this area, the actual analysis/detection occurs. Applicants assert that what the examiner indicates is an analysis target area is not the same element as set forth in the claims. There is no possible way that the analysis target area could move as the examiner describes occurs in the Giebeler et al. disclosure and operate within the confines of the present invention as described within the claims.

Also, the examiner does not discuss the limitation found in claim 15 of an extension from the uptake channel wherein a bubble is formed on the end of the extension for analysis. Applicants assume that the examiner merely made such an anticipation rejection in error, since this is the main limitation of this claim.

Finally, applicants have added significantly more detail to the claims in order to further differentiate the present invention over the references. Added elements to the claims include a reagent tag and functional description that describe how the elements work together for the invention to function. Applicants note that functional limitations have been held to be treated the same as mechanical elements for rejection purposes. Further, in dependent claims, applicants further describe the reagent tag as a dye having specific characteristics.

Therefore, because several limitations within the present claims are not disclosed by Giebeler et al., applicants assert that an anticipation rejection based upon this reference is improper.

Claims 7-9, 12, and 15 stand rejected under 35 U.S.C. § 102(b) as anticipated by Wang et al. (U.S. 5,804,451). Applicants apply the same information relied upon above regarding the Giebeler et al. anticipation rejections to rebut the rejections based upon Wang et al. Wang et al. does not disclose many of the limitations found within the present claims as discussed above. These include an active matrix within the analysis target area, a dye, particularly the specific dye set forth in the new claims, and the extension/bubble limitation found in claim 15. Thus, because these limitations are not disclosed within this reference and anticipation rejection is improper.

Finally, claims 7-12 and 15 stand rejected under 35 U.S.C. § 102(e) as anticipated by Narayanan (U.S. 6,593,148). Applicants have attached an affidavit under Rule 1.131 that removes this reference as prior art, thereby making this issue moot. The reference, which issued after the present application was filed, was filed on March 7, 2000. The declaration, signed by one of the present inventors, indicates that the present invention was physically reduced to practice between September 1998 and March 1999. This information is set forth in the invention disclosure attached to the declaration that was signed by the inventors in July of 1999. Therefore, based upon the issue and filing dates of Narayanan, it can no longer be used as a reference under 102(e). In fact, based upon the issue and filing dates of the Giebel et al. reference, this information also removes Giebel et al. as a proper reference.

Accordingly, applicants believe that claims 7-12, 15, and 17-20 are in condition for allowance and respectfully requests the examiner to withdraw all objections and rejections and allow said claims. Should the examiner need more information regarding this matter or have further suggestions regarding this application, feel free to call the undersigned at 401-832-6679.

Respectfully submitted,



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